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EXAMINER

JUETTNER, ANDREW MARK

ART UNIT	PAPER NUMBER
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3749

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/583,300	Applicant(s) MERSMANN ET AL.	
	Examiner ANDREW M. JUETTNER	Art Unit 3749	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 May 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 4-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 4-26 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 June 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>5/10/2007</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Specification

1. The numbering of claims is not in accordance with 37 CFR 1.126 which requires the original numbering of the claims to be preserved throughout the prosecution. When claims are canceled, the remaining claims must not be renumbered. When new claims are presented, they must be numbered consecutively beginning with the number next following the highest numbered claims previously presented (whether entered or not).

Misnumbered claims 2, 3, 4 (second use of claim 4), and 5-23 in the amendment received on 16 June 2006 have been renumbered as 5-26 in the order they are presented. All claims dependent on present claims 5, 7, 14, and 16 will be considered dependent on the corresponding renumbered claims 8, 10, 17, and 19, respectively.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 4-7, 9-16, and 18-26 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 4 recites the limitation "the pushers" in line 4. There is insufficient antecedent basis for this limitation in the claim. For the purposes of applying art "the pushers" is being interpreted as "the push elements".

Claims 5-7 depend from claim 1. Claim 1 was cancelled. It is unclear what claims 5-7 recite as they are dependent on a cancelled claim. For the purposes of applying art claim 5-7 are being interpreted to be dependent upon claim 4.

Claims 9-16 are indefinite because they are dependent from a renumbered claim and as recited it is unclear what claim they are dependent upon. For the purposes of applying art claims that recite being dependent on claim 5 is considered to be dependent on claim 8, and dependent on claim 7 is considered to be dependent on claim 10.

Claims 18-26 are indefinite because they are dependent from a renumbered claim and as recited it is unclear what claim they are dependent upon. For the purposes of applying art claims that recite being dependent on claim 14 is considered to be dependent on claim 17, and dependent on claim 16 is considered to be dependent on claim 19.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation

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under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. Claims 4-6, 8-12, 14-21, and 23-26 rejected under 35 U.S.C. 103(a) as being unpatentable over US 6,796,141 to Kastingschafer et al. (Kastingschafer) in view of US 5,584,686 to Nielsen (Nielsen).

In Reference to Claim 4

Kastingschafer teaches:

A bulk material cooler (1) having a fixed cooling grate which carries bulk material to be cooled (base 3) and through which a cooling gas flows (column 2, lines 58-59), beam-shaped push elements arranged above the fixed grate area in several neighboring rows at fight angles to a material transport direction which move backwards and forwards (conveyor elements 4,5,6; see figs. 1 and 2), the pushers being movable between a pre-stroke position in the material transport direction and a return-stroke position and transport the material successively from a cooler start to a cooler end (see figs. 3a-3d).

Kastingschafer does not disclose wherein the push elements are formed as hollow bodies through which a cooling medium flows which cools the push elements from the inside.

Nielsen teaches a bulk material cooler where the conveying element has a hollow body (2) provided with an opening for a cooling medium at the lower end of pipe connections (13) and cooling medium outlets (7) into the bulk material bed (5).

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify the push elements of Kastingschafer with the known technique of having the push elements be hollow with cooling medium inlet and outlet ports as taught in Nielsen in order that cooling medium can be fed into the bulk material being transported.

In Reference to Claim 5

Kastingschafer as modified by Nielsen teaches:

The bulk material cooler according to claim 1 (interpreted as claim 4, see rejection of claim 4 above), wherein the push elements include cooling medium intake openings (Nielsen: opening at lower end of connection pipe 13) in their lower area and cooling medium outlet openings in an area which moves in a bed of the bulk material (Nielsen: outlets 7).

In Reference to Claim 6

Kastingschafer as modified by Nielsen teaches:

The bulk material cooler according to claim 1 (interpreted as claim 4, see rejection of claim 4 above), wherein the cooling medium is cooling air (Nielsen abstract).

In Reference to Claim 8

Kastingschafer teaches:

A bulk material cooler (1) comprising: an immobile cooling grate to carry bulk material to be cooled (base 3) and through which a cooling gas flows (column 2, lines 58-59), beam-shaped push elements located above the cooling grate and arranged in several neighboring rows at right angles to a material transport direction (conveyor elements 4,5,6; see figs. 1 and 2).

Kastingschafer does not disclose the push elements being formed as hollow bodies through which a cooling medium flows which cools the push elements internally.

Nielsen teaches a bulk material cooler where the conveying element has a hollow body (2) provided with an opening for a cooling medium at the lower end of pipe connections (13) and cooling medium outlets (7) into the bulk material bed (5) (see Nielsen figure).

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify the push elements of Kastingschafer with the known technique of having the push elements be hollow with cooling medium inlet and outlet ports as taught in Nielsen in order that cooling medium can be fed into the bulk material being transported. As the cooling medium flow through the push element from inlet to outlet it will cool the push element body.

In Reference to Claim 9

Kastingschafer as modified by Nielsen teaches:

A bulk material cooler according to claim 5 (interpreted as claim 8, see rejection of claim 8 above), wherein the push elements are arranged to move backwards and forwards between a forward-stroke position in the material transport direction

and a return-stroke position to transport the material successively from a cooler start to a cooler end (see Kastingschafer figs. 3a-3d; material is moved for inlet 8 in the direction indicated by 9 in figure 1).

In Reference to Claim 10

Kastingschafer as modified by Nielsen teaches:

The bulk material cooler according to claim 5 (interpreted as claim 8, see rejection of claim 8 above), wherein the push elements each have a lower area which includes at least one cooling medium intake opening (Nielsen: opening at lower end of connection pipe 13) and an area which moves in the bulk material bed which includes at least one cooling medium outlet opening (Nielsen: outlets 7).

In Reference to Claim 11

Kastingschafer as modified by Nielsen teaches:

The bulk material cooler according to claim 7 (interpreted as claim 10, see rejection of claim 10 above), wherein the push elements each have a plurality of cooling medium outlet openings (see Nielsen figure, plural outlets 7).

In Reference to Claim 12

Kastingschafer as modified by Nielsen teaches:

The bulk material cooler according to claim 5 (interpreted as claim 8, see rejection of claim 8 above), wherein the cooling medium is air (Nielsen abstract).

In Reference to Claim 14

Kastingschafer as modified by Nielsen teaches:

The bulk material cooler according to claim 5 (interpreted as claim 8, see rejection of claim 8 above), wherein the material is hot cement clinker (Kastingschafer column 2, line 62).

In Reference to Claim 15

Kastingschafer as modified by Nielsen teaches:

The bulk material cooler according to claim 5 (interpreted as claim 8, see rejection of claim 8 above), wherein the push elements are arranged to move backwards and forwards together as a group (Kastingschafer column 3, lines 35-37; conveyor element transport mechanisms can be coupled for joint displacement).

In Reference to Claim 16

Kastingschafer as modified by Nielsen teaches:

The bulk material cooler according to claim 5 (interpreted as claim 8, see rejection of claim 8 above), wherein the push elements are arranged to move backwards and forwards individually (Kastingschafer column 2, line 10-14; conveyor elements can be actuated individually).

In Reference to Claim 17

Kastingschafer teaches:

A bulk material cooler (1) comprising: a cooling grate to carry material to be cooled (base 3) and through which a cooling gas flows (column 2, lines 58-59), beam-shaped push elements located above the cooling grate and arranged

substantially transverse to a material transport direction (conveyor elements 4,5,6; see figs. 1 and 2).

Kastingschafer does not disclose the push elements being formed as hollow bodies through which a cooling medium flows to cool the push elements internally.

Nielsen teaches a bulk material cooler where the conveying element has a hollow body (2) provided with an opening for a cooling medium at the lower end of pipe connections (13) and cooling medium outlets (7) into the bulk material bed (5) (see Nielsen figure).

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify the push elements of Kastingschafer with the known technique of having the push elements be hollow with cooling medium inlet and outlet ports as taught in Nielsen in order that cooling medium can be fed into the bulk material being transported. As the cooling medium flow through the push element from inlet to outlet it will cool the push element body.

In Reference to Claim 18

Kastingschafer as modified by Nielsen teaches:

A bulk material cooler according to claim 14 (interpreted as claim 17, see rejection of claim 17 above), wherein the push elements are arranged to move backwards and forwards between a forward-stroke position in the material transport direction and a return-stroke position to transport the material successively from a cooler start to a cooler end (see Kastingschafer figs. 3a-3d; material is moved for inlet 8 in the direction indicated by 9 in figure 1).

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In Reference to Claim 19

Kastingschafer as modified by Nielsen teaches:

The bulk material cooler according to claim 14 (interpreted as claim 17, see rejection of claim 17 above), wherein the push elements each have a lower area which includes at least one cooling medium intake opening (Nielsen: opening at lower end of connection pipe 13) and an area which moves in the bulk material bed which includes at least one cooling medium outlet opening (Nielsen: outlets 7).

In Reference to Claim 20

Kastingschafer as modified by Nielsen teaches:

The bulk material cooler according to claim 16 (interpreted as claim 19, see rejection of claim 19 above), wherein the push elements each have a plurality of cooling medium outlet openings (see Nielsen figure, plural outlets 7).

In Reference to Claim 21

Kastingschafer as modified by Nielsen teaches:

The bulk material cooler according to claim 14 (interpreted as claim 17, see rejection of claim 17 above), wherein the cooling medium is air (Nielsen abstract).

In Reference to Claim 23

Kastingschafer as modified by Nielsen teaches:

The bulk material cooler according to claim 14 (interpreted as claim 17, see rejection of claim 17 above), wherein the material is hot cement clinker (Kastingschafer column 2, line 62).

In Reference to Claim 24

Kastingschafer as modified by Nielsen teaches:

The bulk material cooler according to claim 14 (interpreted as claim 17, see rejection of claim 17 above), wherein the push elements are arranged to move backwards and forwards together as a group (Kastingschafer column 3, lines 35-37; conveyor element transport mechanisms can be coupled for joint displacement).

In Reference to Claim 25

Kastingschafer as modified by Nielsen teaches:

The bulk material cooler according to claim 14 (interpreted as claim 17, see rejection of claim 17 above), wherein the push elements are arranged to move backwards and forwards individually (Kastingschafer column 2, line 10-14; conveyor elements can be actuated individually).

In Reference to Claim 26

Kastingschafer as modified by Nielsen teaches:

The bulk material cooler according to claim 14 (interpreted as claim 17, see rejection of claim 17 above), wherein the push elements are arranged in a plurality of adjacent rows (see figs. 1-3a).

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7. Claims 7, 13, and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kastingschafer in view of Nielsen as applied to claims 4, 8, and 17 above, and further in view of US 5,820,364 to Hazard (Hazard).

Kastingschafer as modified by Nielsen teaches the bulk material cooler according to claims 4, 8, and 17 (see rejections above), but does not teach the cooling medium being cooling water.

Hazard teaches a walking beam conveyor where the beam is cooled by water (column 7, line 2)

It would have been obvious to one having ordinary skill in the art at the time of the invention to use water as the cooling medium as taught by Hazard in the bulk material cooler of Kastingschafer as modified by Nielsen because it is known that water can be used as a cooling medium in transportation elements, in particular beam shaped conveyors in order to cool the conveyor element.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Fons discloses a bulk material cooler with beam shaped push elements.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to ANDREW M. JUETTNER whose telephone number is (571)270-5053. The examiner can normally be reached on Monday through Friday 7:30am to 5pm Est..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steve McAllister can be reached on (571) 272-6785. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

10. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

AMJ

/A. M. J./
Examiner, Art Unit 3749

/Steven B. McAllister/
Supervisory Patent Examiner, Art Unit 3749